

Identified Problems/Irregularities in Certification Test Report and Applicable Regulatory Basis and/or Test Method

Pursuant to the 2015 Wood Heater Rule, manufacturers must conduct a valid certification test using the prescribed test methods and procedures for each wood heater model. *See* 40 C.F.R. § 60.534.

Primary Identified Problem or Irregularity

Our review of A.J. Wells' March 27, 2020 certification test report found that the certification test was invalid because it was not conducted in accordance with the 2015 Wood Heater Rule and applicable test method. Specifically, the certification test must demonstrate that the wood heater has been tested at the lowest burn rate at which the heater may be commonly operated. *See* 40 CFR § 60.534(a)(1) and American Society for Testing and Materials (ASTM) test method E3053.¹ According to 40 CFR § 60.534(a)(1), *"The burn rate for the low burn rate category must be no greater than the rate that an operator can achieve in-home use and no greater than is advertised by the manufacturer or retailer."* Typically, poor combustion and higher emissions may occur at low burn rates; therefore, testing at the lowest burn rate is essential for representing in-home use and protecting public health. However, the test report for the Subject WH Model documented that the wood heater was tested at the low burn rate of 0.77 kg/hr, which is higher than the medium burn rate of 0.75 kg/hr that was documented in the test report. Therefore, because the certification test did not demonstrate testing at the lowest burn rate the heater can achieve in actual use, EPA finds the certification test invalid.

Additional Problems or Irregularities

EPA's review also found the following issues in the test report, which should be addressed in subsequent reports submitted to EPA.

Test Report Problems or Irregularities	Regulatory Citation and/or Test Method	Information Needed to Address Problems or Irregularities
Missing Information – Fuel Moisture in the Conditioning Data.	ASTM E3053 Section 8.1.4.	The revised test report must document the fuel moisture content (must be between 18 and 28 % dry basis).
Missing Information – Conditioning Data.	ASTM E3053 Section 8.1.4.	The revised test report must document the device was operated for at least 50 hours at a medium combustion air setting before the test series began.
Missing Information in the Non-Confidential Business Information (Non-CBI) Test Report – Firebox Dimensions and Volume Calculation Data.	40 C.F.R. § 60.533(b)(5), 40 C.F.R. § 60.537(f), ASTM E2780 Section 9.3.	The revised test report must include firebox dimensions and volume calculation data.

¹ Sections 8.7.1, 8.7.1.1, 8.8.1, and 8.8.1.1

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Missing Information – Filter Plugging.	40 C.F.R. § 60.533(b)(5), ASTM E2515 Section 9.6.5.	<p>The revised test report (Summary Section) must include an explanation concerning the plugging of the filters. The notes for Runs 1, 2, and 3 (Appendix A) indicate the filters were changed due to plugging.</p> <p>In addition, the test report (Appendix A) does not seem to document that a leak check was conducted when switching out plugged filters. The revised test report must include documentation concerning leak checks for the filters that were plugged and removed.</p>
Missing Information – Instructions from the Manufacturer to the Laboratory on the Operation of the Device.	40 C.F.R. § 60.534(h), 40 C.F.R. § 60.536(g)(1).	The revised test report must document all communication with the test laboratory regarding the operation of the device. Any communication or instructions must be consistent with instructions provided in the Owner’s Manual.
Discrepancy Between the Test Report and the Owner’s Manual - Cordwood Test Fuel Piece Length.	ASTM E3053 Section 8.4.2.8.	Page 5 in the Owner’s Manual documents the recommended test fuel piece length (log size) to be 16 inches. However, the test report documents the length of the test fuel pieces used for the certification test to have been 14 inches. According to the test method, “ <i>the nominal test fuel piece length used shall be in accordance with the manufacturer’s written instructions. All test fuel pieces shall be the nominal length +/- 1 in. (25 mm).</i> ”

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		Please confirm the length of the fuel pieces used during the certification test and the length of the fuel pieces as recommended in the Owner's Manual. Revise the test report and Owner's Manual as needed.